

# 2030 ENERGY POLICY ACTION PLAN

BY 2030, MAKE QUÉBEC A NORTH AMERICAN LEADER IN THE FIELDS OF RENEWABLE ENERGY AND ENERGY EFFICIENCY AND BUILD A NEW STRONG LOW-CARBON ECONOMY

## TARGETS (2030):

- Enhance energy efficiency by 15%
- Reduce the amount of petroleum products consumed by 40%
- Eliminate the use of thermal coal
- Increase overall renewable energy output by 25%
- Increase bioenergy production by 50%

| Theme   | Objective   | Action  | Indicator  | Target date   | Owner (Collaborator)                           |
|---|---|---|--|---|--|
| <b>Key Direction 1: Ensure integrated governance of the energy transition</b>                       |   |   |  |   |  |
|   | Improve the consistency, complementarity and efficiency of all government interventions, as well as those of energy distributors                    | 1. Create Transition énergétique Québec (TEQ)   | Creation of TEQ  | April 1, 2017 (target achieved)   | MERN (MDELCC, MESI, MTMDET, MAPAQ, MAMOT)      |
|   |   | 2. Determine energy innovation priorities   | Submission to the ministry of a list of energy innovation priorities                           | June 2017   | TEQ (MESI, MDELCC, MTMDET, R&D stakeholders)   |
|   |   | 3. Establish the key directions and general objectives for TEQ and determine the targets to achieve by the end of the first Energy Transition, Innovation and Efficiency Master Plan  | Adoption of the key directions of the Energy Transition, Innovation and Efficiency Master Plan | October 2017 (target achieved)  | MERN (TEQ, Régie)                              |
|   | Improve coordination and consultation practices for energy issues with indigenous communities and representatives                                   | 4. Create a consultation council of indigenous communities  | Participation rate of member representatives from indigenous communities                       | Annual participation rate higher than 50%   | MERN (SAA)                                     |
| <b>Key Direction 2: Promote the transition to a low-carbon economy*</b>                             |   |   |  |   |  |
| <b>Innovate green:</b><br>Support innovation in terms of energy and reduced GHG emissions in Québec | Increase the technological innovation activities of energy efficiency and renewable and bioenergy companies   | 5. Support energy innovation projects   | Number of projects financed  | 25% increase by 2020 compared to 2015   | TEQ (MERN, MESI, MTMDET, MAPAQ, MFFP Finances) |
| <b>Move green:</b><br>Influence the movement of people and the transportation of goods              | Increase the number of electric vehicles  | 6. Support the acquisition of electric vehicles using different means, including a pilot project to promote the acquisition of used electric vehicles and finance charging stations in residential areas and business areas | Total number of electric vehicles in Québec  | 100,000 vehicles by 2020<br><br>This target includes the electric heavy or mining vehicles targeted in Action 9 | TEQ (MTMDET, MDELCC Finances)                  |
|   | Speed up the electrification of public transit services   | 7. Help finance fixed electric infrastructure projects  | Amount invested by HQ in electric public transit infrastructure projects                       | \$295 million by 2020   | CDPQ (HQ)                                      |
|   | Increase the number of heavy vehicles converted to clean fuel   | 8. Renew the Écocamionnage program to acquire technologies that reduce the consumption of petroleum fuels by heavy goods transportation vehicles  | Number of eligible eco-efficiency technologies supported since April 1, 2017                   | 30,000 technologies by March 31, 2021   | MTMDET (TEQ, MDELCC)                           |
|   |   | 9. Support the acquisition or conversion of goods transportation vehicles or mining transportation vehicles to electricity, natural gas or propane  | Number of vehicles by fuel type<br>*Electric vehicles are included in Action 6 target          | In 2020:<br>• 15,000 propane vehicles<br>• 12,000 natural gas vehicles  | TEQ, MTMDET (MDELCC, SPN, MERN)                |
|   | 10. Conduct a pilot project, in collaboration with passenger and goods transportation companies, to acquire and operate hydrogen vehicles in Québec | Number of hydrogen vehicles in Québec   | 100 vehicles by 2020   | TEQ (MTMDET, MDELCC)  |  |

\* A reduction of one ton of oil equivalent (toe) in fossil energy consumption corresponds to a GHG reduction calculated using the following coefficients: gasoline (2.86 toe CO<sub>2</sub>); diesel (3.02 toe CO<sub>2</sub>); fuel oil (2.95 toe CO<sub>2</sub>); natural gas (2.1 toe CO<sub>2</sub>); coal (3.63 toe CO<sub>2</sub>).

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| <b>Move green:</b><br>(cont'd)  | Reduce the petroleum fuel consumption of the governmental and para-governmental light vehicle fleet   | 11. Replace all light vehicles with electric or hybrid rechargeable vehicles   | Reduction in per-unit consumption of petroleum by ministries and organizations in comparison to 2012   | Light vehicles: 15%  | SCT<br>(MTMDET (CGER), CSPQ and TEQ)            |
|   | Expand the total offer of replacement fuels: biofuels, natural gas, liquefied natural gas (LNG), compressed natural gas (CNG), propane, hydrogen or electricity | 12. Expand the Circuit électrique  | Number of Circuit électrique charging stations   | 2,500 public stations by 2020                                      | TEQ and HQ<br>(MTMDET, MDDELCC, municipalities) |
|   |   | 13. Support the expansion of the Route Bleue, in particular by adding service points on the north-south route  | Number of public procurement points that offer compressed or liquefied natural gas   | 30 CNG stations<br>5 LNG stations by 2020                          | MERN<br>(Gaz Métro, MTMDET)                     |
|   | Increase the quantity of renewable fuels consumed in Québec   | 14. Establish a regulation requiring minimal renewable content of 2% in diesel and 5% in gasoline consumed in Québec and plan a gradual increase of these requirements | Total quantities of petroleum fuels replaced by biofuels in the automobile fuels consumed in Québec  | 300 million litres of gas, 100 million litres of diesel by 2020    | MERN (MDDELCC)                                  |
| <b>Live green:</b><br>Influence the energy consumption of households and communities      | Reduce household energy consumption   | 15. Submit the recommendations of the household energy consumption advisory panel to the government  | Percentage of recommended measures implemented   | 75% by 2020  | TEQ (APCHQ)                                     |
|   |   | 16. Support the conversion of fuel oil heating systems to other forms of energy  | Number of homes converted since 2013   | 25,000 by 2020   | TEQ   |
|   |   | 17. Promote good behaviours by raising awareness and offering financial assistance programs to households  | Annual growth rate of electricity demand in the residential sector   | Average growth rather from 2017-2020 less than 0.6% per year       | TEQ, HQ, Gaz Métro                              |
|   |   | 18. Conduct an interruptible heating pilot project for households to reduce the power demand in the residential sector   | Execution of the pilot project   | 2019   | HQ  |
| <b>Work green:</b><br>Influence the energy consumption choices of business and government | Increase recourse to clean energy in businesses, institutions and municipalities  | 19. Support the conversion to or acquisition of equipment that operates using cleaner forms of energy than fuel oil  | Percentage of establishments that have abandoned their main fuel oil heating equipment since 2013  | 25% of establishments heated by fuel oil in 2013 converted by 2020 | TEQ<br>(Gaz Métro, HQ, SPN)                     |
|   | Reduce the energy consumption of businesses, public buildings and municipalities  | 20. Support investment in energy efficiency projects   | Change in annual rate of energy consumption by the commercial and institutional sector and the industrial sector attributable to energy efficiency | Reduction of 1% per year   | TEQ, HQ, Gaz Métro                              |
|   |   | 21. Apply best energy efficiency practices in public buildings and convert existing buildings to clean energies  | Percentage of reduction in per-unit energy consumption in public buildings in comparison to 2012   | 5% by 2020   | MO (TEQ)  |
|   |   | 22. Continue the interruptible load programs for commercial and industrial buildings and Hydro-Québec buildings to reduce power demand at peak hours                   | Reduction in peak load demand by Hydro-Québec clients  | 300 MW reduction in power demand by 2020 compared to 2016          | HQ  |
| <b>Key Direction 3: Offer consumers a renewed, diversified energy supply</b>              |   |  |  |  |   |
| <b>Infrastructures</b>  | Plan future developments of energy distribution networks to meet the specific expectations of major industrial investment projects                              | 23. Develop and implement an intervention plan for the permanent task force on industrial energy supply  | Percentage of intervention plan implemented  | 25% by 2020  | MERN<br>(MESI, MAMOT, SAM, SPN)                 |
|   | Promote the development of innovative, structuring green energy projects  | 24. Support innovative, structuring green energy projects using the Capital Mines Énergie fund   | Number of green energy investment projects financed  | 3 projects by 2020   | MESI<br>(MERN, MFQ)                             |
|   | Provide better 3-phase power distribution in rural regions to support agrifood businesses   | 25. Extend the 3-phase power distribution network to serve regions where this investment is justified  | Number of 3-phase network extension projects carried out   | 4 projects by 2020   | TEQ (HQ)  |
|   | Convert off-grid systems to cleaner, more competitive sources of energy   | 26. Implement off-grid system conversion projects developed by the communities served  | Proportion of electricity offered to communities not connected to the main Hydro-Québec network obtained through renewable sources                 | 20% by 2020<br>6 projects by 2020                                  | HQ<br>(communities, SPN, MERN)                  |

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| <b>Rate determination</b> | Review the rate-setting framework for electricity and natural gas set out in the Act Respecting the Régie de l'énergie | 27. Produce an opinion on rate solutions based on best practices in other states and territories   | Publication of the opinion   | Spring 2017 (target achieved)   | Régie de l'énergie   |
| <b>Hydroelectricity</b>   | Increase the value of investments made by industrial companies and create new jobs                                     | 28. Roll out a new electricity rate offer adapted to different sectors of the economy, to support the competitiveness and development of businesses (rate discount)  | Amount of private investments stemming from electricity discount                         | \$2.6 B by December 31, 2020, for the discount program for consumers charged Rate L (target achieved) | Finances (HQ, MERN, MFFP, MESI, MAPAQ - greenhouse sector) |
|                           | Increase the hydroelectric power of the Hydro-Québec generating facilities   | 29. Upgrade generating stations that have production equipment at the end of its useful life   | Increase in power generated by hydroelectric generating facilities in comparison to 2015 | 1,140 MW by 2025  | HQ (MERN)  |
|                           | Improve Hydro-Québec's profitability   | 30. Conclude new long-term electricity sales agreements in markets outside Québec, make acquisitions and acquire shares of electricity production and transportation businesses outside Québec             | Net earnings of Hydro-Québec   | Increase of \$200 M by 2020 in comparison to 2015   | HQ   |
|                           | Increase renewable energy output by commissioning small hydroelectric power stations                                   | 31. Continue to support the four mini-station projects commenced in 2014, until completion   | Number of projects completed since 2014  | 3 projects by 2020  | MERN   |
| <b>Wind power</b>         | Establish conditions favourable to the export of wind power and wind power components                                  | 32. Review the legal framework for the export of renewable energies and the attribution of public lands  | Publication of a draft regulation in the Gazette officielle                              | Spring 2018 (target achieved)   | MERN (MESI, MTMDET)  |
|                           |  | 33. Review the legal framework for improving the transportation conditions for non-standard wind power components  | Value of export sales for wind power manufacturing industry                              | 150% of 2015 sales by 2020 (target achieved)  | MTMDET, MSP  |
| <b>Solar</b>              | Make solar energy a source of business opportunities for Québec  | 34. Build Hydro-Québec's expertise in centralized solar power electricity production by carrying out a solar farm pilot project in Québec  | Implementation of the pilot project  | 2017  | HQ   |
|                           |  | 35. Evaluate the capacity of decentralized photovoltaic panel technology to make the operation of the electrical network more efficient and meet the needs of Québécois                                    | Smart solar house demonstration project  | 2017  | HQ - IREQ  |
| <b>Bioenergy</b>          | Increase the production and consumption of renewable natural gas in Québec   | 36. Help finance organic matter biomethanation projects  | Quantity of renewable natural gas produced annually in Québec                            | 50 million cubic metre increase by 2020 in comparison to 2016   | MDDELCC (MERN)   |
|                           |  | 37. In 2017, adopt a regulation establishing 5% as the minimum proportion of renewable natural gas that Québec natural gas distributors must inject in their distribution network for clients in Québec    | Proportion of renewable natural gas compared to total volumes distributed in Québec      | Achieve 5% renewable natural gas content by 2020  | MERN   |
|                           | Increase the production of biofuels in Québec  | 38. Help finance the construction of biofuel demonstration plants  | Number of projects completed   | 1 project by March 31, 2020   | MERN   |
| <b>Natural gas</b>        | Provide better natural gas distribution to the regions of Québec   | 39. Help finance expansion projects for the natural gas distribution network in regions not served by the current network, particularly Thetford Mines, Saint-Marc-des-Carières and Saint-Éphrem-de-Beauce | Length added to the natural gas network after April 1, 2017                              | 65 km by March 31, 2020 (target achieved)   | MERN (Gaz Métro, MERN, MESI, RNCan)                        |

#### Key Direction 4: Define a new approach to fossil energies

|                     |  |  |  |             |  |
|---------------------|--|--|--|-------------|--|
| <b>Hydrocarbons</b> | Develop a legal and regulatory framework that safeguards people and assets, protects the environment and provides optimal recovery of the resource | 40. Develop a regulatory framework for hydrocarbon exploration and operation activities  | Enactment of the regulations             | Fall 2017   | MERN (MDDELCC, MSP, MSSS)                            |
|                     | Allow municipalities to designate areas that are incompatible with hydrocarbon development activities and remove such activities from these areas  | 41. Develop government guidelines on land use related to hydrocarbon development and the designation of areas that are incompatible with hydrocarbon development | Publication of government guidelines     | Fall 2017   | MERN (MAMOT)   |
|                     | Reduce the risk related to the transportation of hydrocarbons in Québec  | 42. Extend the transportation work of the permanent hydrocarbon monitoring unit and develop a plan to improve the safety of transporting hydrocarbons in Québec  | Publication date of the improvement plan | Spring 2018 | MERN (MDDELCC, MTMDET, MSSS, MFQ, MAPAQ, MSP, MAMOT) |